Antibody subclasses as a tool for *Helicobacter pylori* antigen characterization

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Background: *Helicobacter pylori* is a bacteria that colonizes about 50% of the world population. *H. pylori* infection is associated with severe disease including peptic ulcer and gastric cancer. Several factors have been proposed as important for this variability. Among the factors that possibly participate in this variable disease outcome is the host's immune response. Antibody subclass markers could be important markers for disease outcome and could be used as interesting markers of the development and polarization of immune response. Therefore, we characterized the differences in subclass antigenic recognition according to *H. pylori* associated disease and source of antigen.

Methods: IgG1 and IgG2 titres were determined by ELISA in 44 sera of patients with different *H. pylori* associated diseases (Gastric cancer, peptic ulcer and dyspepsia). *H. pylori* antigens were obtained from 12 different clinical isolates from similar associated diseases.

Results: When the IgG1 and IgG2 titres were analyzed, we found higher IgG2 titres across all titre determinations unrestrictive of pathology. In particular, peptic ulcer patients showed higher IgG2 /gG1 titre ratios. Source of antigen also had an effect on these determinations, as dyspepsia derived antigens revealed higher IgG1 titres across all screened sera.

Conclusion: There was an increase in IgG2 titres in all sera, in concordance with a Th1 response. This increase is more represented in peptic ulcer patients. Antigen source was found to be a variable in these determinations, which represents a novel characteristic of subclass-associated antigenic analysis.

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Hepatitis (Poster Presentation)

53.001

Age-specific seroprevalence of hepatitis A in SARI (northern part of IRAN)

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Background: Hepatitis A virus (HAV) is an enteric, viral, infectious disease still endemic in many developing countries such as Iran. Improved sanitary condition has generally resulted in a significant decline in the incidence of hepatitis A. However, a low incidence of infection results in increased HAV susceptibility. The present study investigates the seroprevalence of hepatitis A virus antibodies in relation to age to clarify the current HAV status and HAV susceptibility in the city of Sari, northern part of Iran.

Methods: A cross-sectional study was carried out in 2009. Subjects, age from 1- 25 years, were tested for anti-HAV IgG antibody using a commercial enzyme immunoassay kit. Subjects were investigated using a standardized social and medical history questionnaire. In data analysis, we use X2 (chi-square) and fisher exact test.

Results: 1034 subjects were enrolled including 620 urban and 414 rural people. The overall seroprevalence rate was 38.8%. There were 192 children under 5 years old and 330 subjects between 5 and 15 years and 512 subjects between 15 to 25 years old.. There was significant correlation between ages, parent's educational levels and home condition with anti HAV antibody levels.

Conclusion: The surveillance of anti-HAV antibody prevalence is useful for implementing preventive measures and for controlling the spread of HAV. It seems that immunization against HAV will be needed in early future in our Population.

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53.002

Association of polymorphism of HLA-DRB1 13 and HLA-A 33 alleles with outcome of hepatitis B virus infection

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Background: Hepatitis B virus (HBV) infection is a major public health problem worldwide. The mechanism of susceptibility to chronic persistent HBV infection is not well clarified, while the outcome of HBV infection mainly depends on the host immune response. Different HLA class 1 and 2 alleles may play roles in HBV infection outcome. The current study aimed to determine association between HBV infection outcome and HLA-A and DRB1 genotyping in North part of Iran.

Methods: Ninety-four HBV infected patients were enrolled in this study. First HLA-A and DRB1 alleles were analyzed by using low resolution PCR sequence-specific-primer (PCRSSP) and then we used high resolution PCR-SSP method for subtyping HLA-A*33 and DRB1*13 alleles which were significantly related to the outcome of HBV infection.

Results: The frequency of A*33 allele in persistent group was higher than in recovered group (9.37% vs. 0%, $P < 0.008$) and sub typing showed HLA-A*3303 and HLA-A*3301 in 75% (allele frequency: 7.3) and 25% (allele frequency: 2.34) of persistent HBV infected cases respectively. The frequency of DRB1*13 allele was lower in persistent group than in recovered group (3.13% vs. 11.67%, $P < 0.03$, OR = 0.22, 95%CI 0.06-0.82), and HLADRB1* 1301 and HLA-DRB1*1303 were found in 66.7%(allele frequency: 4.89) and 33.3% (allele frequency: 3.45) of cases respectively. HLA-A*3303 and DRB1*1301 were the predominant subtypes of HLA-A*33 and DRB1*13 at high resolution PCR-SSP method.

Conclusion: Host HLA polymorphism is an important factor to determining the outcome of HBV infection. HLA-